DEC STD 100-3 Diagnostic Engineering Change Orders (DECOs) and Patch Orders (DEPOs) and Form Preparation

DOCUMENT IDENTIFIER: A-DS-EL00100-03-0000 Rev J1, 14-Feb-1990

ABSTRACT: This section of DEC STD 100 describes the policies and procedures for administrating and controlling Diagnostic Engineering Change Orders (DECOs) and Diagnostic Engineering Patch Orders (DEPOs), and for submitting new diagnotic products to the Software Distribution Center. Instructions for filling out the DECO/DEPO/SUBMISSION Form are also included.

APPLICABILITY: This standard is mandatory for Digital personnel who take part in the diagnostic change process. This document applies to diagnostics written for PDP–11, VAX, DECsystem-10 and DECsystem-20, microVAX, and microPDP systems.

STATUS: APPROVED 14-Feb-1990; use VTX SMC for current status.

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1 INTRODUCTION

This section of DEC STD 100 defines the policies and procedures for administrating and controlling changes to the diagnostic software products created and released for use by Diagnostic Engineering.

It also defines the procedure for filling out the forms used by Diagnostic Engineers to change diagnostic software and to submit new programs to the Software Distribution Center (SDC).

Released PDP–11 diagnostic programs can be changed using the Diagnostic Engineering Change Order (DECO) or the Diagnostic Engineering Patch Order (DEPO). The 36-bit and 32-bit VAX families use only the DECO.

Both DECOs and DEPOs may involve submitting a diagnostic product to SDC and both use the DECO/DEPO/Submission Form to control and announce the change.

2 RESPONSIBILITIES

2.1 DIAGNOSTIC ENGINEERING GROUPS

Diagnostic Engineering Groups are responsible for creating DECOs and DEPOs. Diagnostic programs are created, enhanced, or changed by these decentralized groups, then submitted to the appropriate diagnostic release engineering group.

2.2 DIAGNOSTIC RELEASE ENGINEERING GROUPS

The responsibilities of the following diagnostic release engineering groups are procedural and administrative, not technical.

2.2.1 16-Bit Diagnostic Release Engineering

The 16-Bit Diagnostic Engineering Group is responsible for the following:

a. Administering DECOs and DEPOs to changed diagnostic programs.

b. Maintaining a history of each diagnostic program.

c. Coordinating the release of diagnostic software for 16-bit processor families.

d. Coordinating reports to the PRISM System for the decentralized diagnostic engineering groups.

NOTE

PRISM is the problem reporting and information system for hardware and diagnostics.

2.2.2 36-Bit Diagnostic Release Engineering

The 36-bit Diagnostic Release Engineering Group is responsible for the following:

a. Administering DECOs to changed diagnostic programs.

NOTE

There is no DEPO process for 36-bit diagnostic products.

b. Maintaining a history of each diagnostic program.

c. Coordinating the release of diagnostic software for 36-bit processor families.

d. Coordinating reports to the PRISM system for the decentralized diagnostic engineering groups.

2.2.3 32-Bit Diagnostic Release Engineering

The 32-Bit Diagnostic Release Engineering Group is responsible for the following:

a. Administering DECOs to changed diagnostic programs.

NOTE

There is no DEPO process for 32-bit diagnostic products.

b. Maintaining a history of each diagnostic program.

c. Coordinating the release of diagnostic software for 32-bit processor families.

d. Coordinating reports to the PRISM system for the decentralized diagnostic engineering groups.

e. Initiating hardware ECOs for media that is directly related to hardware.

2.3 EVALUATING GROUPS

The following groups represent potential users of diagnostics and are responsible for participating in the evaluation and approval of diagnostic change orders. The evaluation period is set by agreement between Diagnostic Engineering and the evaluators. Evaluators include customer services, manufacturing, the waiving manager, and representatives of single-user products.

a. **Customer Services** - The diagnostic is made available to a Customer Services representative for evaluation and signature. This signature is mandatory unless replaced by the signature of the waiving manager.

b. **Manufacturing** - The diagnostic is made available to a Manufacturing representative for evaluation and signature. This signature is mandatory unless replaced by the signature of the waiving manager.

c. **Waiving Manager** - The waiving manager is the manager of the Diagnostic Engineering cost center that is responsible for the diagnostics. The intent of the potential waiver is not to do away with evaluation, but to prevent excessive delay. If the waiver option is exercised, the Diagnostic Engineering Manager must inform Manufacturing, Customer Services, and the appropriate hardware product Manager via a waiver. The cost center signs the DECO/DEPO/SUBMISSION Form in the appropriate box. See headings 3.3 and 5.6 for further information. Figure 2 shows the waiver form to be used for large VAX systems. The waiver must be justified prior to release to SDC.

d. **Representatives of Single User Products** - Products intended for use by a single user group (such as Field Service) only require the signature of the representative of the intended user group. If the product is to be released for use by other groups at a later date, the product must be re-released and signed by representatives of all affected groups at that time.

2.4 SOFTWARE DISTRIBUTION CENTER (SDC)

The Software Distribution Center (SDC) is responsible for reproducing and distributing the diagnostic products submitted to it by Diagnostic Release Engineering. For DEPOs, the DEPO itself is the only media on which the diagnostic program patch information appears. This patch may also be included in the program image on diagnostic media. This DEPO must appear as an individual line item on the software bill of materials (BOM). This will ensure that the DEPO will be shipped with the appropriate diagnostic media.

2.5 SYSTEMS MANUFACTURING FACILITIES SOFTWARE DISTRIBUTION

For 16-bit products, systems manufacturing facilities will receive copies of each DECO or DEPO via the Micrographic Services/Systems - Corporate Distribution System. Software products associated with DECOs and DEPOs are reproduced by the SDC and then kitted.

2.6 MICROGRAPHIC SERVICES/SYSTEMS - CORPORATE

Corporate Micrographic Services is responsible for microfilming DECOs and DEPOs for 16-bit products and for distributing them to the various manufacturing sites, Software Services, and the SDC.

2.7 EDUCATIONAL SERVICES DEVELOPMENT AND PUBLISHING (ESD&P) MICROPUBLISHING

Educational Services Development and Publishing (ESD&P) Micropublishing is responsible for the following.

2.7.1 16-Bit Products Only

DECOs and DEPOs are distributed to the field on microfiche. This is done by the Micropublishing Group, located at FPO/B5, which is a part of Educational Services Development and Publishing.

DECOs are not packaged with diagnostic products and are only available in microfiche form.

2.7.2 32-Bit Products Only

DECO listings are distributed to the field on microfiche. They are also made available to the self-maintenance customer who signs a diagnostic source agreement from the Micropublishing group. Automatic Distribution (ADS) handles the distribution.

DECOs are not packaged with diagnostic products and are only available in hard-copy form from the 32-Bit Diagnostic Release Group.

3 GENERAL POLICIES

Diagnostic products can only be changed by DECOs or DEPOs, depending on the product line. Only the maintaining diagnostic engineering groups may create DECOs and DEPOs.

3.1 DIAGNOSTIC ENGINEERING CHANGE ORDER (DECO)

A DECO is used when a released diagnostic program is being updated to the next revision level for one or more of the following reasons:

a. To reflect hardware changes or correct software problems.

b. To eliminate a DEPO or an outstanding temporary fix (16-bit only).

c. To add additional features or enhancements.

The DECO supersedes the previous version and patch level of the product it is changing. Any other superseded diagnostic product(s) are specified on the DECO.

3.2 DIAGNOSTIC ENGINEERING PATCH ORDER (DEPO) 16-BIT FAMILY ONLY

A DEPO is used only in the 16-bit family to make a temporary correction (patch) to a diagnostic program for one or more of the following reasons:

a. When a diagnostic program error is detected that renders the program inoperative or misleading, and when the correction involves patches totaling 20 or less machine words.

b. When a documentation error is detected that renders the program inoperative or misleading.

c. When an existing diagnostic is to be obsoleted and no longer supported either by Diagnostic Engineering or available from SDC.

3.3 DECO/DEPO REJECTION AND WAIVER

When a DECO or DEPO is rejected by the mandatory evaluators, Diagnostic Release Engineering must receive a completed rejection form. A copy of the rejection form, shown in Figure 1, shall be sent by Release Engineering to the originator and all other persons named on the form. The master copy will be placed in the file for the diagnostic product in question. The product must be either re-submitted to Release Engineering or waived by the responsible manager. This is for the XXDP only, not UFD.

The manager of a Diagnostic Engineering cost center whose product has been rejected or has been in evaluation in excess of the agreed upon evaluation period has the option of waiving approval by the evaluators. In most cases, the cost center manager signs the "waivering manager" box on the DECO/DEPO/SUBMISSION Form. See subhead 5.6 and Figure 3.

For large VAX systems, the manager must complete a waiver form that specifies the reason for the waiver and the commitment for resolving the issue(s) that led to a rejection or delay in evaluation. The resolution must be acceptable and ready for distribution in the next scheduled release cycle. The form must be sent to Diagnostic Release Engineering. A copy of the waiver form shall be sent to the evaluators and the master copy shall be placed in the file for the diagnostic product in question. The waiver is removed by an approved DECO to the product or by a memorandum from the manager, signed by the evaluators, to Release Engineering that states the waiver is to be removed without a DECO. If a waiver must remain in effect, the manager must issue another waiver form for each release cycle until the waiver is removed. Figure 2 shows the waiver form for large VAX systems.

NOTE

Financial repercussions, such as media needing to be recycled and reworked, will be charged to and accepted by the Cost Center Manager who signed the waiver.

Figure 1: DIAGNOSTIC/DEC/X-11 Rejection Form

```
DIAG/DECX Title:          Rev:       Patch:       Eco:

Author:                   Loc:       DTN:

Submitting Engineer:      Loc:       DTN:

Maintainer:               Loc:       DTN:

Maintaining Group:

Evaluator:                Loc:       DTN:

Date:

REASON FOR REJECTION:   Software [ ]   Documentation [ ]   Other [ ]

Please state reason.

HARDWARE:

     CPU:
     PERIPHERALS:
     MEMORY SIZE:

     Any special conditions?

FAILURE MODE:

Failure Indications:

Include any patches found to solve problem.

COMMENTS:
```

Figure 2: DECO/DEPO Waiver Form

Product Name:

Rev:_____ Patch:_____ ECO:_____

Author:_____Loc:_____DTN:_____

Submitting
Engineer:_____Loc:_____DTN:_____

Maintainer:_____Loc:_____DTN:_____

Maintaining
Group:_____Loc:_____DTN:_____

Waiving
Manager:_____Loc:_____DTN:_____

REASON PRODUCT REJECTED OR NOT APPROVED:

Commitment for Problem Resolution (Include Completion Date)

COMMENTS:

_____
WAIVING MANAGER (signature)
COST CENTER MANAGER

4 PROCESS

Once a problem with a diagnostic product has been identified, the diagnostic engineer details the problem, develops a solution, and tests it. Whether the solution involves a DECO or a DEPO, the engineer establishes control of the change by filling out a DECO/DEPO/SUBMISSION form. Heading 5 details how to fill out this form for 16-bit products.

NOTE

32-bit products and the microVAX have their own form for a DECO.

A properly filled out form includes the following information, as applicable:

Product Identification - All identifying data for the diagnostic product, including revision and patch levels, distribution and copyright dates, title, and responsible engineers.

Product Components (16-Bit Products Only) - The numbers assigned to all component parts of the diagnostic product, such as documents and microfiche.

Products Superseded - The identification number of the revision of the diagnostic product(s) being obsoleted other than previous revisions of the same product.

Product Characteristics - Codes for all processors on which the product operates, and for all operational modes.

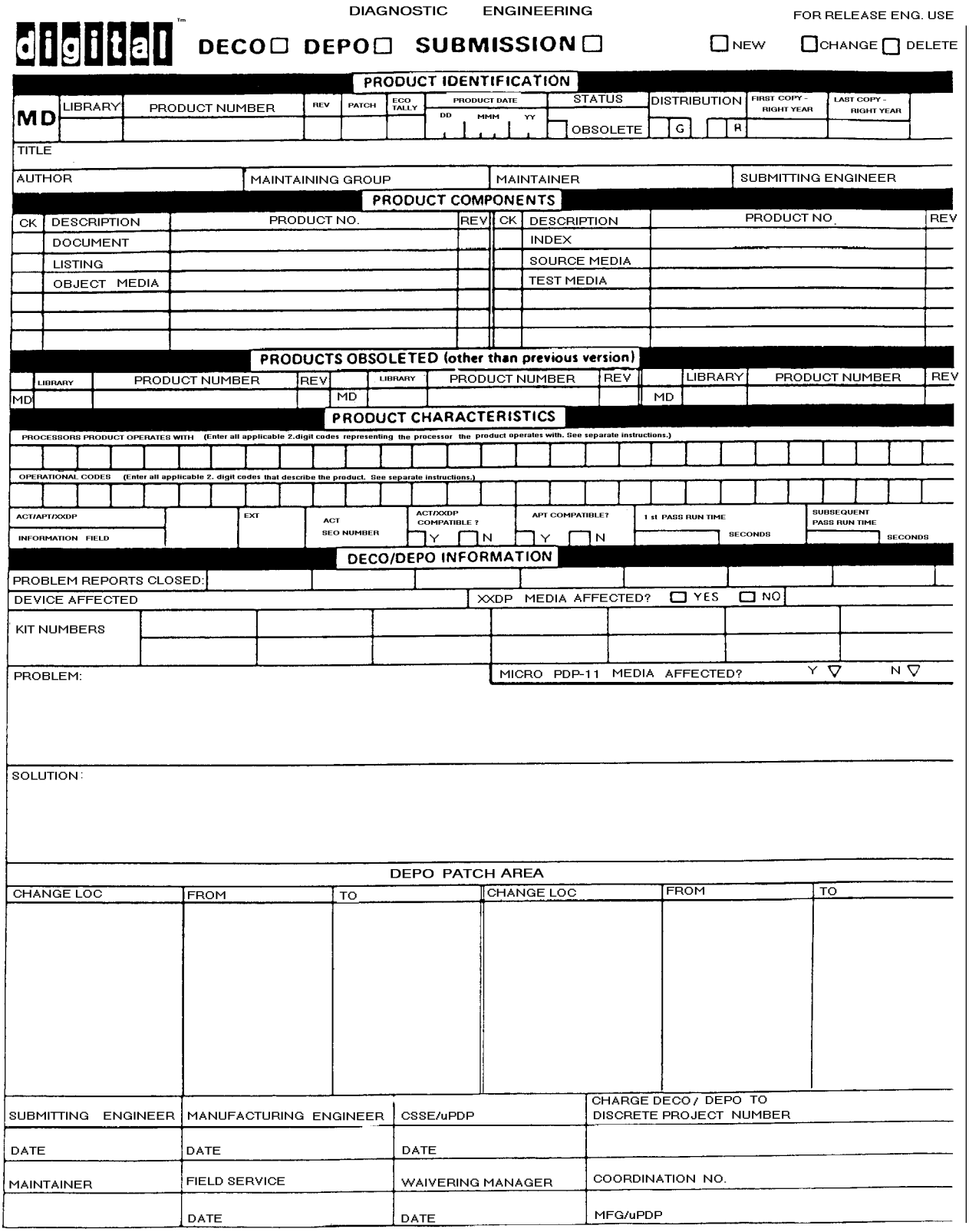
DECO/DEPO Information - All PRISM problem reports that are closed because of the DECO/DEPO, any options that the product operates on, any media affected, software kits affected, details of the problem and its solution, and signatures of responsible engineers.

Diagnostic Release Engineering Groups administer the DECO/DEPO. This administration includes assigning sequential change order numbers, maintaining an up-to-date record and file of all DECOs and DEPOs, and maintaining and distributing the DECO/DEPO Report and the Diagnostic Indexes. Diagnostic Release Engineering releases diagnostics to the Software Distribution Center.

5 FORM PREPARATION

Figure 3 shows a DECO/DEPO/Submission form [EN-01222-16-000-(38V)]. The majority of the entries are made by the diagnostic engineer filling out the form; some entries, however, are reserved for Diagnostic Release Engineering.

Figure 3: DECO/DEPO/SUBMISSION Form



DIAGNOSTIC ENGINEERING

FOR RELEASE ENG. USE

digital™ DECO☐ DEPO☐ SUBMISSION☐ ☐NEW ☐CHANGE ☐DELETE

PRODUCT IDENTIFICATION

MD	LIBRARY	PRODUCT NUMBER	REV	PATCH	ECO TALLY	PRODUCT DATE DD MMM YY	STATUS	DISTRIBUTION	FIRST COPY - RIGHT YEAR	LAST COPY - RIGHT YEAR
							☐OBSOLETE	☐G ☐R		

TITLE

AUTHOR	MAINTAINING GROUP	MAINTAINER	SUBMITTING ENGINEER

PRODUCT COMPONENTS

CK	DESCRIPTION	PRODUCT NO.	REV	CK	DESCRIPTION	PRODUCT NO.	REV
	DOCUMENT				INDEX		
	LISTING				SOURCE MEDIA		
	OBJECT MEDIA				TEST MEDIA		

PRODUCTS OBSOLETED (other than previous version)

	LIBRARY	PRODUCT NUMBER	REV		LIBRARY	PRODUCT NUMBER	REV		LIBRARY	PRODUCT NUMBER	REV
MD				MD				MD			

PRODUCT CHARACTERISTICS

PROCESSORS PRODUCT OPERATES WITH (Enter all applicable 2.digit codes representing the processor the product operates with. See separate instructions.)

OPERATIONAL CODES (Enter all applicable 2. digit codes that describe the product. See separate instructions.)

ACT/APT/XXDP INFORMATION FIELD	EXT	ACT SEQ NUMBER	ACT/XXDP COMPATIBLE ? ☐Y ☐N	APT COMPATIBLE? ☐Y ☐N	1 st PASS RUN TIME SECONDS	SUBSEQUENT PASS RUN TIME SECONDS

DECO/DEPO INFORMATION

PROBLEM REPORTS CLOSED:

DEVICE AFFECTED XXDP MEDIA AFFECTED? ☐YES ☐NO

KIT NUMBERS

PROBLEM: MICRO PDP-11 MEDIA AFFECTED? Y▽ N▽

SOLUTION:

DEPO PATCH AREA

CHANGE LOC	FROM	TO	CHANGE LOC	FROM	TO

SUBMITTING ENGINEER	MANUFACTURING ENGINEER	CSSE/uPDP	CHARGE DECO / DEPO TO DISCRETE PROJECT NUMBER
DATE	DATE	DATE	
MAINTAINER	FIELD SERVICE	WAIVERING MANAGER	COORDINATION NO.
	DATE	DATE	MFG/uPDP

5.1 DECO/DEPO/SUBMISSION

DIAGNOSTIC ENGINEERING

digital™ DECO☐ DEPO☐ SUBMISSION☐

FOR RELEASE ENG. USE

☐NEW ☐CHANGE ☐DELETE

Check all appropriate boxes at the top of the form.

NOTE

A DECO will always be accompanied by a submitted diagnostic product, so the Submission box will always be checked. A DEPO, however, only involves a submission if the DEPO is unconditional. An unconditional, or general, change applies to all possible hardware/software configurations. A conditional patch only applies to a particular software and hardware configuration.

5.2 PRODUCT IDENTIFICATION

PRODUCT IDENTIFICATION

MD	LIBRARY	PRODUCT NUMBER	REV	PATCH	ECO TALLY	PRODUCT DATE (DD MMM YY)	STATUS	DISTRIBUTION	FIRST COPY - RIGHT YEAR	LAST COPY - RIGHT YEAR
	ZZ	CZDMS	B	0	01	12 OCT 1979	OBSOLETE	X G R	1979	

TITLE: CZDMSB0 M8203 Static Diag. #2

AUTHOR: D. Hoffman | MAINTAINING GROUP: Diag. MK | MAINTAINER: R. Misner | SUBMITTING ENGINEER: D.H.

PRODUCT COMPONENTS

Library: There are two possible entries into this box; enter ZZ or MD.

Product Number: Enter the "package code", the unique 5-character alphanumeric code assigned to the diagnostic product by Diagnostic Release Engineering in this box.

Diagnostic Release Engineering must be informed about whether the product is for general (G) or restricted (R) distribution before they assign a package code. Package codes indicate the type of distribution. G or R is also checked in the Distribution block in the Product Identification section of the form.

NOTE

Restricted distribution is for in-house Digital personnel only; General distribution is not restricted, and is distributed to the field.

Rev: Enter the revision level of the diagnostic product. The initial release of a program is Rev A. The second is B, and so on through Z. Release Engineering maintains records of all revisions.

Patch: Enter a digit from 0 to 9 to indicate the patch level of the revision. New revisions (DECO) are always 0. DEPOs against a revision begin with 1 and continue through 9. There may not be more than 9 DEPOs against one revision.

ECO Tally: Release Engineering completes this field by entering a sequential numeric code that indicates the total number of ECOs against the diagnostic product.

Product Date: Enter the date when the diagnostic product was created or revised. This is the same date that appears on the product.

Status: If the form is being used for a DEPO written to obsolete the product, check the box entitled OBSOLETE.

Distribution: Check the type of distribution; G for general or R for restricted. The product numbers and component part numbers (package codes) that Release Engineering assigns are coded to indicate the types of distribution.

1st Copyright Year: Enter the year that the product was first released from the Software Distribution Center (SDC). This date is the first year cited in the copyright statement on the documentation coversheet.

Last Copyright Year: Enter the last copyright year, which is generally the current year, when the product will be released. If it is known that the product will not be released until the following year, use that year. The last copyright year must match the last year in the copyright statement on the documentation coversheet.

Title: Enter the name/title of the product as assigned by Release Engineering. This field is limited to 29 characters. The first 8 characters are product number, revision, patch, and a space. The remaining 21 are used to describe the diagnostic. It is allowable to use abbreviations for the title in this field; however, the title must closely resemble the title that appears on the coversheet of the documentation. The coversheet title need not be abbreviated.

Author: Enter the name of the diagnostic engineer who designed the product. If that engineer is no longer in the Diagnostic Engineering group, then enter the name of the submitting diagnostic engineer.

Maintaining Group: Enter the diagnostic engineering group responsible for maintenance of the product.

Maintainer: Enter the name of the supervisor of the diagnostic engineer designing or revising the product.

Submitting Engineer: Enter the name of the diagnostic engineer submitting the product.

5.3 PRODUCT COMPONENTS

PRODUCT COMPONENTS

CK	DESCRIPTION	PRODUCT NO.	REV	CK	DESCRIPTION	PRODUCT NO.	REV
x	DOCUMENT	AC-E234B-MC			INDEX		
	LISTING				SOURCE MEDIA		
x	OBJECT MEDIA				TEST MEDIA		
x	Fiche	AH-E235B-MC					
y	DECO	AF-E234B-MO					

Enter all appropriate component part numbers as assigned by SDC through Release Engineering. These numbers will conform with SDC's unified numbering code, stated in *DEC STD 012-4 Unified Numbering Code (UNC) - Software Numbering Conventions*. Each component part (such as a document, magtape, or microfiche) has an individual number.

5.4 PRODUCTS OBSOLETED

PRODUCTS OBSOLETED (other than previous version)

	LIBRARY	PRODUCT NUMBER	REV		LIBRARY	PRODUCT NUMBER	REV		LIBRARY	PRODUCT NUMBER	REV
MD				MD				MD			

Enter the component part number or package code of the last revision of the diagnostic product(s) being obsoleted. Do not enter earlier revisions.

5.5 PRODUCT CHARACTERISTICS

PRODUCT CHARACTERISTICS

PROCESSORS PRODUCT OPERATES WITH (Enter all applicable 2.digit codes representing the processor the product operates with. See separate instructions.)

03	04	05	10	20	21	34	35	40	45	50	55	60	70															

OPERATIONAL CODES (Enter all applicable 2. digit codes that describe the product. See separate instructions.)

00	01	02	03	04	05	06	99																					

ACT/APT/XXDP INFORMATION FIELD		EXT BIC	ACT SEQ NUMBER	ACT/XXDP COMPATIBLE ?	APT COMPATIBLE?	1 st PASS RUN TIME	SUBSEQUENT PASS RUN TIME
				[X] Y [ ] N	[X] Y [ ] N	45 SECONDS	45 SECONDS

Processors Product Operates With: Enter 2-digit codes representing all the processors on which the product operates and was evaluated. Table 1 lists these codes. Include every code that applies.

NOTE

The diagnostic product must be tested on each processor indicated.

Operational Codes: Enter 2-digit codes that represent all the operational environments of the product, for example ACT-11, APT-11, and XXDP+. Table 2 lists these codes. Include every code that applies and was evaluated.

NOTE

The diagnostic product must be tested in each environment indicated.

Table 1: Processor Codes

Processor	Code
PDP–11/03	03
PDP–11/04	04
PDP–11/05	05
PDP–11/10	10
PDP–11/20	20
PDP–11/21	21
PDP–11/23	23
PDP–11/24	24
PDP–11/34	34
PDP–11/35	35
PDP–11/40	40
PDP–11/44	44
PDP–11/45	45
PDP–11/50	50
PDP–11/53	53
PDP–11/55	55
PDP–11/60	60
PDP–11/70	70
PDP–11/73	73
PDP–11/83	56
PDP–11/84	57
SBC-11/21	25
PDP–11/23B	26
LCP5	27

Table 2: Operational Codes

Mode	Code
STANDALONE	00
SUPERVISOR	01
ACT-11	02
APT-11	03
XXDP CHAIN	04
XXDP MANUAL	05
SLIDE	06
XON/XOFF	07
UFD	08
EXEC MODE	10
USER MODE	30
DIAG MODE	40
SYS EXER	50
uVAX I and II	63
VAX/VMS	66
APT-VAX	67
RT–11	98
SWITCHLESS	99

Ext: Enter any applicable extension from the following list.

.OBJ	DEC/X11 Module
.LIB	DEC/X11 Library
.SYS	XXDP+ Monitor or Driver
.TXT	ASCII File
.BIC	Binary File that is both Chainable and ACT-11 Compatible
.BIN	Binary File
.CCC	XXDP+ Chain File
.DIR	ACT-11 Sequence Table

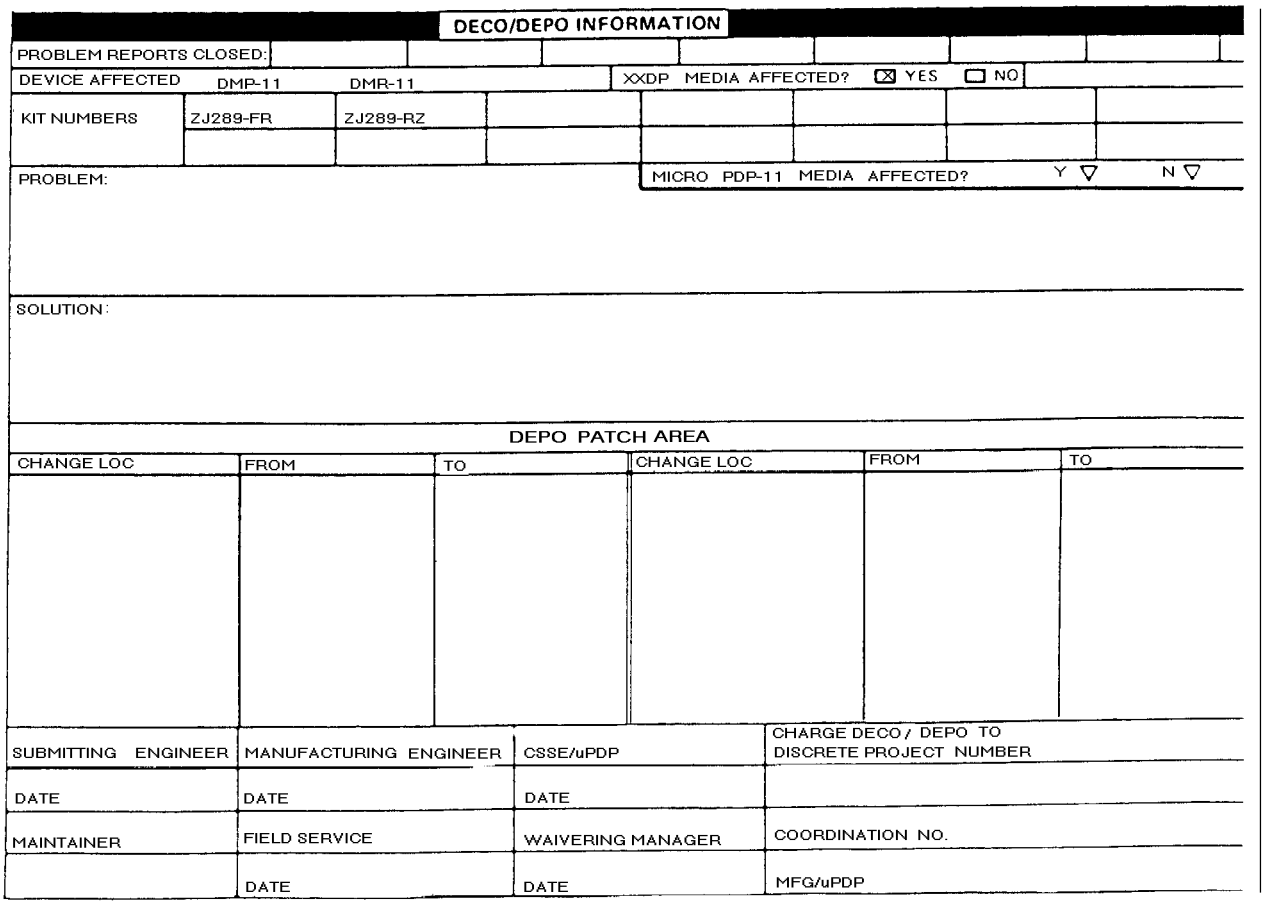
ACT-11/XXDP Compatible?: If the product is ACT-11/XXDP+ compatible, check the Yes (Y) box.

APT Compatible?: If the product is APT-11 compatible, check the Yes (Y) box.

1st Pass Run Time: Enter the first pass or quick verify run time (in seconds).

Subsequent Pass Run Time: Enter the subsequent pass or auto-accept run time (in seconds).

5.6 DECO DEPO INFORMATION



DECO/DEPO INFORMATION

PROBLEM REPORTS CLOSED:							
DEVICE AFFECTED DMP-11 DMR-11				XXDP MEDIA AFFECTED? ☒ YES ☐ NO			
KIT NUMBERS	ZJ289-FR	ZJ289-RZ					
PROBLEM:				MICRO PDP-11 MEDIA AFFECTED? Y ▽ N ▽			
SOLUTION:							

DEPO PATCH AREA

CHANGE LOC	FROM	TO	CHANGE LOC	FROM	TO

SUBMITTING ENGINEER	MANUFACTURING ENGINEER	CSSE/uPDP	CHARGE DECO / DEPO TO DISCRETE PROJECT NUMBER
DATE	DATE	DATE	
MAINTAINER	FIELD SERVICE	WAIVERING MANAGER	COORDINATION NO.
	DATE	DATE	MFG/uPDP

Device Affected: Enter the designations for the options that the product operates on, such as RX11-AA or RX01-BC. Designations must be approved designations, and are available from Release Engineering.

Multimedia Affected?: Enter YES if program is to be distributed on all XXDP media. Enter NO if program is restricted.

Unlabeled Box: If the form is for a DEPO, use the unlabeled box to the right of the XXDP Affected box to indicate whether a DEPO is conditional or unconditional by entering CONDITIONAL if conditional or UNCONDITIONAL if not. Conditional means the DEPO only applies to particular hardware/software configurations. Unconditional means the DEPO applies to all possible hardware/software configurations.

NOTE

Only unconditional DEPOs are patched on media.

Kit Numbers: Enter the numbers of all affected software bills of materials, which indicate how the product is shipped. These numbers are available from Release Engineering. Specify any additions or deletions.

Problem: If a DEPO, describe in detail the nature of the problem. If a DECO with a new program, use this space to describe the product. If a DECO with a new revision, use this space to describe in detail the changes that were made to the program.

MicroPDP–11 Media Affected: Enter YES if the program submitted is to be distributed on the microPDP media. Enter NO if the program will is restricted.

Solution: Describe in detail the correction(s) for the problem(s). State compatibility requirements here, such as revision of VAX Diagnostic Supervisor, hardware ECO, corequisites, or prerequisites.

DEPO Patch Area: List all 6-digit machine word corrections in this area. For example,

Change Loc	From	To
001010	123456	154321

Submitting Engineer: Enter the signature of the submitting diagnostic engineer, and underneath, the date. This signature is mandatory.

Manufacturing Engineer: Enter the signature of the manufacturing engineer who is responsible for evaluation and sign-off of the diagnostic product. Underneath, enter the date. This signature is mandatory unless waived by the Cost Center Manager.

CSSE/μPDP: Enter the signature of the CSSE representative who is responsible for evaluation and sign-off of the microPDP diagnostic.

Charge DECO/DEPO/SUBMISSION to Discrete Project Number: Enter the discrete charge number. If the product being released is found to contain release or distribution processing problems, this discrete charge number may incur recovery costs.

Maintainer: Enter the signature of the supervisor of the diagnostic engineering group responsible for maintenance of the product. Underneath, enter the date. This signature is mandatory.

Field Service: Enter the signature of the Customer Services representative who is responsible for evaluation and sign-off of the diagnostic product. Underneath, enter the date. This signature is mandatory unless waived by the Cost Center Manager.

Cost Center Manager: If applicable, enter the signature (and underneath, the signature date) of the Diagnostic Engineering manager who is responsible for waiving the evaluation and signatures of the Manufacturing representative.

NOTE

As stated in subhead 2.3, Customer Services and Manufacturing are offered the opportunity to evaluate and sign-off the completed diagnostic software before it is released to the SDC. However, if an expedited release is necessary, the Cost Center Manager can exercise this option. If so, the manager must inform Customer Services, Manufacturing, and the appropriate hardware Product Manager.

Coordination Number: Release Engineering uses this field for administration and control of DECOs, DEPOs, and diagnostic product submissions.

NOTE

The ECO Continuation Sheet will be used when needed. The break-in/effectivity date for the diagnostic is when it is available from the SDC.

MFG/uPDP: Enter the signature of the manufacturing representative who is responsible for the evaluation and sign-off of the microPDP diagnostic.

6 ECO FORM PREPARATION

Figure 3-4 shows a MVII Diagnostic ECO Submission form. Most of the entries are made by the submitting diagnostic engineer; however, some entries are reserved for Diagnostic Release Engineering.

The following pages explain the ECO entries and the appropriate information needed.

Diagnostic Title: The MicroVAX II MDM Diagnostic Title briefly describes the diagnostic module. The first word of a title is a full device code and the next two words are "MDM Diagnostic". The length of the title depends on the length of the device code; however, the diagnostic title is to be no more than twenty-nine (29) characters long, including spaces.

Facility Number: A facility number is a number that is used to construct the 32-bit value of the message code. Facility numbers for MicroVAX II MDM diagnostics range from 400 to 4095 decimal (12-bit field).

Once a facility number is assigned by the Diagnostic Release Engineering, it remains the same for all revisions of the diagnostic module.

All ECO fields are mandatory and must be completed with the following information.

a. Product Code: Enter a unique 6-character diagnostic code and facility number assigned by the Diagnostic Release Engineering. Separate these two items by ", " (comma followed by a space). This field must be the same as the "Product Code" that appears on the coversheet of the source program.

b. Product Title: Enter the product title. This field is limited to 29 characters, including spaces. The full device code must be the first word of the title followed by "MDM Diagnostic". It is allowable to use abbreviations in the product title. This field must be the same as the "Product Title" that appears on the coversheet of the source program.

c. Product Date: Enter today's date.

d. ECO purpose: Enter in this field the purpose of this ECO and whether the message file is affected.

   The first entry of this field indicates the purpose of this ECO. Enter one of the following:

   1. Enter NEW if the diagnostic module has never been released before.
   2. Enter CHANGE if submitting new revision of existing diagnostic module.
   3. Enter the 6 character alphanumeric diagnostic code of the obsoleted diagnostic if the diagnostic module is replacing another. Do not include previous revisions of the same diagnostic.

      The second entry of this field specifies whether the message file has been affected by this ECO. Enter NEW, CHANGED, or UNCHANGED. Enter NEW, if the message file has never been released before. Enter CHANGED, if submitting message file that was modified (changed). Enter UNCHANGED, if submitting message file that was not modified (changed). For example,

      ECO Purpose: CHANGE, UNCHANGED indicates that the diagnostic was modified; however, the message file was not affected by this modification.

e. ECO Status: This is for use by the Diagnostic Release Engineering. It indicates the status of the ECO.

f. Distribution: Enter "G" to signify general distribution. If distribution is to be limited, enter "R" to denote restricted distribution, internal to Digital.

g. Copyright: This field requires two dates (year part only). The first date is used to record the first year that the product was released. The second date is the current year.

h. Release £: Enter the release number in which this diagnostic module is to be released.

i. Language(s): List programming language code(s) used to develop this diagnostic. Each programming language code is comprised of two (2) elements, the Programming Language Identifier and the Module Count. These elements are separated by an asterisk (*). Module Count is a decimal number ranging from 1 to 9 and indicates the number of files (modules) to be submitted in the programming language specified by the Programming Language Identifier.

j. Submitting Engineer: Enter the name of the engineer submitting the product.

k. Location/Mail Stop: Enter the submittor's mailbox location and mail stop.

l. DTN: Enter the submittor's Digital Telephone Number (DTN).

m. ENET Address: Enter the node and account name to which electronic mail should be sent to get the submittor's attention.

n. Department: Enter submittor department name.

o. Author: Enter the name of the person responsible for creating the original diagnostic module or revision. If this individual is no longer employed by the group, the submittor's name may be entered in this field.

p. Field Service: Enter the name of the Field Service representative responsible for approving this diagnostic module.

q. Manufacturing Engineer: Enter the name of manufacturing representative responsible for approving this diagnostic module.

r. Maintainer: Enter the name of the manager responsible for modifying (updating) this diagnostic module.

s. Maintaining Group: Enter the name of the group that will be responsible for any revisions to this diagnostic module.

t. Problem: If this ECO is submitted in response to a specific problem, that problem should be defined in this field. Be as brief as possible because this field is limited to only 5 lines. If this is a new release, leave the first two lines blank and on the third line enter "NEW PROGRAM".

u. Solution: If an actual problem was listed in the "Problem" field, the solution should be noted here. If an enhancement was made, describe it. For a new release, this field may be left blank. This field is also limited to only 5 lines.

A completed ECO form must accompany all submitted diagnostic modules.

NOTE

Thirty days prior to submission of a new MicroVAX Diagnostic, a Quality Plan and a MicroVAX Diagnostic Monitor (MDM) Parameter Sheet must be completed and returned to Diagnostic Release Engineering. The MDM Diagnostic Sheet includes the MDM Parameter Sheet and can be found on BETSY::MDM$DOC Assignment Sheet. See Figure 3-5.

Figure 4: MVII Diagnostic ECO Submission Form

```
*-----------------------------------------------------------------*
*                                                                 *
*            DEC MicroVAX II MDM Diagnostic ECO Form              *
*                                                                 *
*-----------------------------------------------------------------*

Product Code :                          ECO Status:

Product Title:

Product Date:                           Release £:

ECO Purpose:                            Distribution:

Language(s):                            Copyright:

-------------------------------------------------------------------

Submitting Engineer:

Location/Mail Stop:                     DTN:

ENET Address:

Department:

Author:

Field Service Engineer:

Manufacturing Engineer:

Maintainer:

Maintaining Group:
---------------------------PROBLEM-------------------------------



---------------------------SOLUTION-------------------------------



--------------------------AUTHORIZATION--------------------------
Submitting Engineer   :                          Date:
                        ------------------------        --------
Maintainer            :                          Date:
                        ------------------------        --------
Manufacturing Engineer:                          Date:
                        ------------------------        --------
Field Service Engineer:                          Date:
                        ------------------------        --------
```

Figure 5: MDM Diagnostic Assignment Sheet (sheet 1 of 3)

MDM DIAGNOSTIC ASSIGNMENT SHEET

SUBMITTOR:

DTN:

LOC/MAIL STOP:

DEPARTMENT:

NETWORK ADDR:

DEVELOPMENT LANG:

RELEASE £ TO BE IN:

CSSE:

MANUFACTURING REP:

MDM SYSTEM MANAGER REQUIREMENTS:

30 DAYS PRIOR TO PROGRAM SUBMISSION:

Quality Plan

MDM Parameter Sheet for autoconfig (INCLUDED)

AT TIME OF SUBMISSION:

Q. A. Checklist

Copy of ESD & P Contract for documentation
(if a new device it affects manuals.)

Completed and signed E.C.O.

Submittal of special build process if applicable.

Submittal of special library if applicable.

Submission of all the above is required in the scheduled time frames
or programs will be rejected by Release Engineering and System Manager.

PLEASE RETAIN A COPY OF THIS

Figure 5: MDM Diagnostic Assignment Sheet (sheet 2 of 3)

INFORMATION REQUIRED FOR AUTOCONFIGURATION OF AN MDM SUPPORTED DEVICE

DIAGNOSTIC NAME:

DEVICE:

Person to contact for information : _____

DTN : _____

Network address : _____

Diagnostic size on disk (£ of blocks) _____

Maximum Diagnostic size in memory (£ of bytes) _____
(200 KBytes maximum)

For MSCP and TMSCP devices

RANK _____

BR LEVEL _____

DEVICE CODE _____

All other devices:

Are the CSR's fixed, floating or fixed and floating?

List all CSR's and specify floating of fixed;

CSRS _____

_____

_____

_____

_____

_____

_____

_____

VECTORS _____

_____

_____

_____

_____

_____

_____

_____

Figure 5: MDM Diagnostic Assignment Sheet (sheet 3 of 3)

```
BR LEVEL  _______________

RANK      _______________
```

Either a soft copy or a hard copy of a document that explains the devices hardware is required. If the document is to be supplied in soft copy form, we need the location to copy it from.

Please include a commented copy of the code in the configuration section of the diagnostic to help us in identifying what devices are on the controller.

APPENDIX A REFERENCED DOCUMENTS

A.1 EL-Class Digital Documents

EL-Class Number	Document Title
EL-00012-00	*DEC STD 012-0 Part Identification Standard*
EL-00012-04	*DEC STD 012-4 Unified Numbering Code (UNC) - Software Numbering Conventions*

Use VTX SMC to order copies of EL-class documents from Standards and Methods Control. Send distribution questions to JOKUR::SMC or call DTN: 234-4423.

A.2 Other Digital Documents

Document Number	Document Title
EN-01222-16	*DECO/DEPO/SUBMISSION Form*

A.3 Ordering Information

Copies of forms may be ordered from:

Northboro Distribution
Form Inventory Order Inquiry
NRO3-1, DTN: 234-4325

```
+-------------------------------------------------------------------+
|                        READER COMMENTS                            |
|                                                                   |
| Your  comments  and suggestions  will help  Standards and Methods |
| Control improve their services and documents.                     |
+-------------------------------------------------------------------+
```

Did you request this document? _____ If so, did it arrive within a satisfactory period of time? _____ Please comment.

What are your impressions of this document? Consider format, organization, completeness, readability, and illustrations.

————————**FOLD ON THIS LINE**———————————————— -

Did you find technical or clerical errors in this document? If so, please specify the page number(s) and the error(s).

Are the instructions for the update package clear? _____
Was an index available? _____ If not, is one needed? _____
Do you have other suggestions for improving this document?

The following information is optional:

Name _____ Mailstop _____

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Send your comments to JOKUR::PROJECTS, or fold, staple, and send this page through interoffice mail to:

```
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|          NRO4/D4             |
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```